

SHORT CUTS

WHAT'S NEW IN THE OTHER GENERAL JOURNALS

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MRI better than CT for diagnosing acute stroke

It now seems clear that magnetic resonance imaging (MRI) is better at detecting acute stroke than conventional computed tomography (CT), says an editorial (pp 252-4). It should be the diagnostic test of choice.

The author was commenting on a pragmatic study from the United States which found that in an unselected population of patients, MRI picked up significantly more acute ischaemic strokes than computed tomography (sensitivity 83% (95% CI 77% to 88%) v 16% (12% to 23%)) and was as good as computed tomography at detecting acute intracerebral haemorrhage (81% (61% to 93%) v 89% (70% to 97%)). The difference was especially marked in the first few hours after onset of stroke, when critical decisions about management must be made. In this study, 90 patients presented within three hours of an acute ischaemic stroke. MRI detected 41 of the strokes, computed tomography only six.

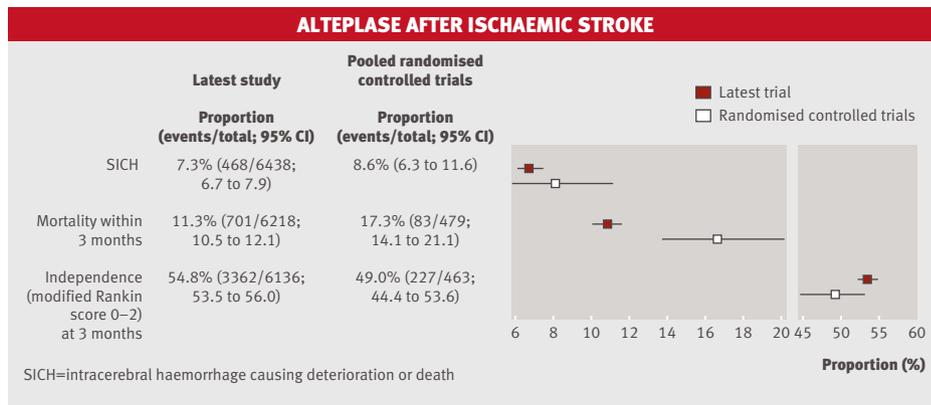
The study included 356 patients with suspected stroke, who were assessed with both types of imaging. Independent experts interpreted the images without access to any clinical information, and their reports were compared with the final diagnosis reached by the admitting team.

These findings are broadly in line with other comparisons of the two imaging techniques and confirm the superiority of MRI for patients who can tolerate it—about 1 in 10 patients in this study could not.

Lancet 2007;369:293-8

Alteplase is safe treatment for ischaemic stroke

Randomised trials have shown that alteplase is a safe and effective treatment for ischaemic stroke when given within three hours of the onset of stroke. But is it safe in the real world of clinical practice? A large observational study of 6483 patients treated in the course of normal practice at 285 centres across the European Union concludes that it is. Overall mortality at three months for patients given the drug was 11.3% (701/6218; 95% CI 10.5% to 12.1%), less than the 17.3% reported



by randomised trials. Importantly, the risk of intracranial haemorrhage was also lower than that reported by randomised trials, although it varied between 1.7% (107/6444; 1.4% to 2.0%) and 7.3% (468/6438; 6.7% to 7.9%) depending on the definition. The drug's manufacturer, Boehringer Ingelheim, collaborated in the study.

Participants were aged under 80 and were treated rapidly by specialists in committed, well equipped stroke centres. Patients with severe strokes or hypertension were excluded. Even so, an editorial (pp 249-50) says that these results, combined with similar findings from Canada and the US, confirm that alteplase is at least as safe in clinical practice as it was in clinical trials.

European regulators granted alteplase a conditional licence in 2002. More than four years later, only a minority of eligible patients are being treated. These results should reassure doctors who fear the drug's haemorrhagic potential, say the study's authors.

Lancet 2007;369:275-82

Lancet 2007;369:249-50

Essential oils implicated in prepubertal gynaecomastia

When a boy aged only 4 years presented with gynaecomastia, doctors suspected he had been exposed to exogenous oestrogens. Oral contraceptives, soya products, and marijuana were all considered but dismissed by his mother. As the gynaecomastia got slowly worse, she eventually remembered the lavender oil she had been rubbing on her son's

skin. Since this was the only possible source of the trouble, she was advised to stop, and the gynaecomastia resolved. Two further cases of prepubertal gynaecomastia followed: a 10 year old who had been washing and styling his hair with shampoo and gel containing lavender and tea tree oils; and a 7 year old who had been using lavender soap. Both got better after they stopped using the scented products, although their gynaecomastia took several months to resolve completely.

None of the three boys were rechallenged, but laboratory experiments in human breast cancer cells later confirmed that both lavender and tea tree oil are weakly oestrogenic and antiandrogenic. Both properties could have disrupted the boys' sex steroids and caused (or at least contributed to) the development of gynaecomastia, say the researchers. Doctors should be aware of a possible link between prepubertal gynaecomastia and lavender or tea tree oil.

N Engl J Med 2007;356:479-85

Benzodiazepine restrictions did not affect hip fractures in older people

Concern over the widespread misuse of benzodiazepines prompted many US authorities to control access. New York was one of the first states to take action, and in 1989 the department of health insisted that doctors must issue all prescriptions for benzodiazepines in triplicate and despatch one copy to the authorities for surveillance purposes. Prescribing of benzodiazepines fell immediately by 44%, and prescribing to older

people enrolled in the Medicaid healthcare scheme fell by more than half.

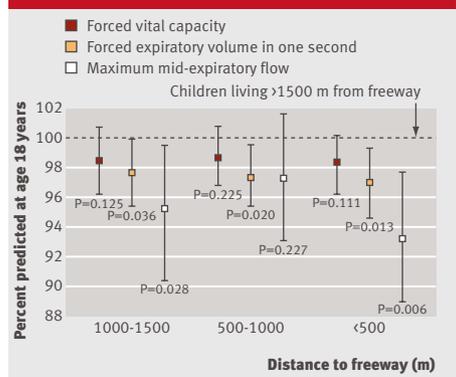
As benzodiazepines can make older people dizzy, unsteady, and vulnerable to falls, researchers and policy makers were expecting to see a parallel drop in the number of hip fractures in the state. But they did not. A recent study showed that the incidence of hip fractures among men and women aged over 65 did not decline despite the changes in benzodiazepine use. Hip fractures continued at about the same rate before and after New York's change in policy. Furthermore, the cumulative incidence of hip fracture in New York remained broadly similar to the incidence in neighbouring New Jersey, where authorities had not tried to control benzodiazepine prescribing.

The authors aren't sure why this natural experiment didn't work, unless benzodiazepines don't increase the risk of hip fractures. Another natural experiment is already under way and may provide the answer—in January last year all benzodiazepines were excluded from Medicare coverage.

Ann Intern Med 2007;146:96-103

Traffic fumes stunt growth and function of lungs in children

LUNG FUNCTION AND FREEWAYS



Living close to a Californian freeway (motorway) impairs the growth and development of children's lungs, a longitudinal study has found. Yearly lung function tests in 3677 children showed a clear deficit in those living <0.5 km from the traffic, and they had significantly worse lung function at 18 years than children living >1.5 km away.

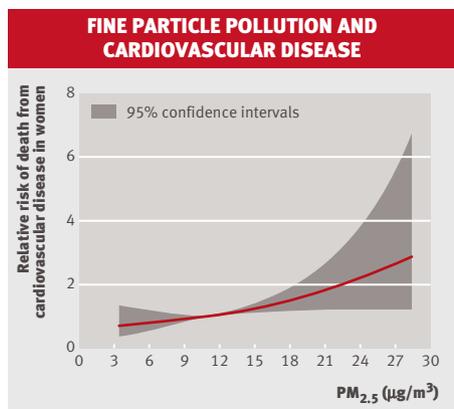
Lung function increased more slowly from the age of 10, particularly in boys. At 18, lung function in children close to the freeway was only 93%-97% of that in children living further away. Adjusting for poverty and educational achievement did

not affect the study's findings, which stood firm through various sensitivity analyses.

We still don't know which of the many pollutants in exhaust fumes causes the most damage to children's lungs, says a linked editorial (doi: 10.1016/S0140-6736(07)60038-5), although small particles, particularly those measuring <2.5 μm across, have been implicated. Diesel exhaust is one of the main sources of particulate pollution from traffic, and the authors suspect that diesel fumes were responsible for some of the deficits they found.

Lancet doi: 10.1016/S0140-6736(07)60037-3

Fine particle pollution linked to cardiovascular disease



As well as being linked to lung function, particulate pollution is associated with cardiovascular disease, particularly in women. An analysis of data from the Women's Health Initiative, a mammoth cohort study of postmenopausal women in the United States, recently found that each 10 $\mu\text{g}/\text{m}^3$ increase in concentration of fine particle pollution increased women's risk of a first cardiovascular event by 24% (hazard ratio 1.24 (95% CI 1.09 to 1.41)) and their risk of death from cardiovascular disease by 76% (1.76 (1.25 to 2.47)). The events included strokes, heart attacks, and coronary and cerebrovascular deaths. All were linked to long term exposure to fine particles <2.5 μm across, but not to other environmental pollutants such as sulphur dioxide, nitrogen dioxide, carbon monoxide, and ozone.

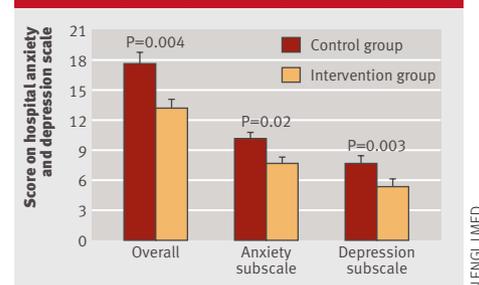
These figures are the most reliable so far, says an editorial (pp 511-3), and the most convincing. The analysis included 65 893 women living in cities all over the US. None had cardiovascular disease at the start of the study. Nearly 2000 had had a cardiovascular event by the end of the study four years later. The clear association between fine particle pollution (measured from the nearest monitor) and cardio-

vascular disease was unexplained by poverty, educational level, smoking, or any of the conventional risk factors. It now seems likely that this kind of pollution can cause widespread damage to arteries. We don't know how.

N Engl J Med 2007;356:447-58

Unhurried listening helps relatives through grief

COMMUNICATING WITH RELATIVES OF PATIENTS DYING IN INTENSIVE CARE UNITS



Communicating effectively with relatives is an important part of caring for patients dying in an intensive care unit. Many units have clear protocols to help doctors and nurses do it better, and at least one has now been tested formally in a randomised trial.

The protocol, which was developed in the United States and tested in France, emphasises listening more and talking less, understanding the patient as a person, acknowledging relatives' emotions, and eliciting questions more effectively than with a simple "any questions?" The session takes a few minutes longer than a standard end of life conference, involves more relatives and a broader mix of professionals, and ends with the relatives receiving a detailed, standardised brochure about bereavement.

Researchers compared their protocol with standard practice in 22 French intensive care units (126 patients). All the patients' relatives had end of life conferences. But those who had the longer and more proactive sessions had significantly fewer symptoms of anxiety (prevalence 45% v 67%), depression (29% v 56%), and post-traumatic stress (45% v 69%) in the three months after the death. Relatives in the intervention group were also less likely to need psychotropic drugs and more likely to allow doctors to withhold life sustaining treatments.

Nearly every family will eventually face the reality of death in the intensive care unit, say two US commentators (pp 513-5). This study could mean a less traumatic aftermath for many of them.

N Engl J Med 2007;356:469-78

SHORT CUTS EXTRA

WHAT'S NEW IN *BMJ* JOURNALS

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Prescribed drugs and deterioration in Alzheimer's disease

In a cohort of 224 patients with Alzheimer's disease whose disease progression was measured over 12 months, prescription of antipsychotics and sedatives hastened deterioration. Deterioration was slowed, however, by specific memory related drugs, statins, angiotensin converting enzyme inhibitors, and angiotensin II receptor antagonists.

Most harm was found in the patients who had been prescribed both antipsychotics and antidepressants—the odds ratio for rapid deterioration, compared with those prescribed neither of these drugs, was 3.86 (95% confidence interval 1.28 to 11.7). For the third of patients taking drugs indicated for dementia, the risk of deterioration was reduced (0.31, 0.11 to 0.85). Intriguingly, the effect seemed greater with antihypertensives and statins.

Causality is not proved by this study, and dosage and compliance were not considered. The main message is to weigh risk and benefit carefully before prescribing antipsychotics and sedatives. The authors are encouraged that medication licensed for Alzheimer's disease seems to slow decline, but it is sobering that statins may perform even better.

J Neurol Neurosurg Psychiatry 2006 (Sep)
doi: 10.1136/jnnp.2006.104034

Emergency departments reluctant to give sick notes

UK government guidance to hospitals on issuing sickness certificates is being ignored at accident and emergency departments and fracture clinics. A survey of 50 hospitals in Scotland and England found that only nine of their emergency departments and 20 fracture clinics issued certificates. Seven hospitals stated it was policy not to do so, and the rest had no clear policy but "just don't give them." Reasons may include patients assuming that only general practitioners can issue them, reluctance by doctors (who may think they are unnecessary), and a desire not to increase workload. Emergency staff, in particular, may be concerned that patients might attend for that purpose alone. The authors recommend that explicit

departmental policies be designed to comply with Department of Health advice, whose 2001 report estimated possible savings of 518 000 general practitioner appointments and 42 000 hours of their time.

Emerg Med J 2007;24:31-2

Botulinum toxin relieves writer's cramp



JOHN POWELL/REX

Botulinum toxin type A was better than placebo in a double blind randomised trial of 39 patients with chronic writer's cramp who were treated over 12 weeks and followed up for 12 months.

Fourteen of 20 (70%) patients receiving botulinum toxin type A reported benefit and chose to continue treatment (the primary outcome measure), compared with 6 of the 19 (32%) patients given saline injections. Significant improvement was found in the scores for patients' assessment of handwriting, symptom severity, and writing speed. Adverse events were confined to temporary injection pain and hand weakness. The beneficial effects in those continuing treatment lasted for a mean of 4.7 months before further botulinum toxin was indicated. At the end of the trial those who did not improve with placebo were offered treatment—9 of 13 having a positive response. Overall about half of patients elected to continue treatment after one year (some dropouts resulted from retirement or travel distance rather than waning effect).

J Neurol Neurosurg Psychiatry 2006 (Dec)
doi: 10.1136/jnnp.2005.083170

Purulent sputum predictive of bacterial infection in COPD

Sputum that looks purulent has been confirmed as a good predictor of bacterial infection in patients with an exacerbation of chronic obstructive pulmonary disease (COPD) requiring admission to hospital. Forty such patients were admitted and had bronchoscopy; 17 of the 22 who had purulent sputum had a positive culture from uncontaminated specimens obtained with bronchoscopy, but only 1 of 18 who had mucoid sputum had a positive culture.

Other factors predicting bacterial positivity included previous admissions, more than four exacerbations annually, and severe airflow obstruction. The authors suggest that these simple variables may help to predict which patients should be given antibiotics.

Thorax 2007;62:29-35

Success in gun law reform in Australia

After a 1996 mass shooting in Tasmania, all Australian states passed new gun laws. In all, over 600 000 semiautomatic and pump action rifles were compulsorily purchased and destroyed, and tens of thousands more were voluntarily surrendered. In the succeeding 10 years there have been no mass shootings (compared with 13 in the previous 18 years), and the annual rate of firearm homicides and suicides has about halved. The authors believe that the country's response (of grief and revulsion) towards the 1996 mass shooting reflected a national change in attitude to gun owners and their firearms.

Injury Prevention 2006;12:365-72



JASON SOUTH/FAIRFAX PHOTOS